

# MARINE CORPS WARFIGHTING LABORATORY

**Purpose:** To develop materials and tactics, techniques, and procedures (TTPs) for rapidly upgrading, repairing, or constructing expeditionary or contingency airfields in-theatre with a low logistics footprint.

## **Background:**

The Marine Corps requires an organic capability to control dust in expeditionary landing zones for rotary wing operations in arid to semi-arid climates containing Aridisol type soils. This need to control dust was identified in recent operations in Afghanistan, where the horrendous dust conditions severely limited pilot visibility, causing “brown-out” conditions. Current doctrine does not specifically mention a solution to abating dust, but a myriad of dust palliatives are recommended leaving much confusion as to what palliative to apply in what situation and which application methods are best for applying palliatives.

## **Requirement:**

The Marine Wing Support Groups and Combat Service Support Groups require a dust palliative that will control dust in an austere, arid to semi-arid climate. The palliative must either be applied “as-is” or able to be pre-mixed with water and staged for up to 3 months with no degradation in product quality. This requirement is in anticipation of an inadequate water supply being available on site for dust abatement operations. An expeditionary ground based application system is needed to apply palliative.

## **Description:**

Ground Delivery Application System of Polyacrylimide (PAM) is accomplished by treatment of a dry chemical mixture in conjunction with saturation using water and an emulsified product, and then applied via modified commercial off the shelf equipment attached to a High Mobility Multi Wheeled Vehicle (HMMWV) or hydro seeder.

## **DUST ABATEMENT**

### *fact sheet*



## **Deliverable Product:**

An assessment and recommendation on the optimal product formulation for use in a arid climate and in soil that has high silt content. This includes validation that the product can be applied in one application in conjunction with or followed by saturating with water while operating in an expeditionary and austere environment.

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**DTD:** March 11, 2005



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